# Building midwifery educator capacity in teaching and practice in low and lower-middle income countries: A review of the literature

## Abstract

## Aim and Objective:

Midwifery educators play a critical role in strengthening the midwifery workforce in low and lower-middle income countries (LMIC) to ensure that women receive quality midwifery care. However, the most effective approach to building midwifery educator capacity is not always clear. This paper will explore approaches used to build midwifery educator capacity in LMIC and identify evidence to inform improved outcomes for midwifery education.

## Design:

A structured search of bibliographic electronic databases (CINAHL, OVID, MEDLINE, PubMed) and the search engine Google Scholar was performed. It was decided to also review peer reviewed research, grey literature and descriptive papers. Papers were included in the review if they were written in English, published between 2000 and 2014 and addressed building knowledge and/or skills in teaching and/or clinical practice in midwifery educators who work in training institutions in LMIC. The Preferred Reporting Items for Systematic Reviews and Meta Analyses (PRISMA) was used to guide the reporting process. The quality of papers was appraised in discussion with all authors. The findings sections of the research papers were analyzed to identify successful elements of capacity building approaches.

## Findings:

Eighteen (6 research and 12 discursive) papers were identified as related to the topic, meeting the inclusion criteria and of sufficient quality. The findings were themed according to the key approaches used to build capacity for midwifery education. These approaches are: skill and knowledge updates associated with curriculum review, involvement in leadership, management and research training and, participation in a community of practice within regions to share resources.

## Key conclusions:

The study provides evidence to support the benefits of building capacity for midwifery educators. Multi-level approaches that engaged individuals and institutions in building capacity alongside an enabling environment for midwifery educators are needed but more research specific to midwifery is required.

## Implications for practice:

These findings provide insight into strategies that can be used by individuals, faculties and institutions providing development assistance to build midwifery educator capacity in LMIC.

Keywords: Midwifery; education; developing country; capacity building.

## Introduction and Background

There is international consensus that midwifery care is the most cost effective solution to decreasing maternal and newborn mortality in low and lower-middle income countries (LMIC) (Renfrew et al. 2014). The ability of a midwife to demonstrate competence according to international standards (Fullerton et al 2003; ICM 2013) and contribute to improving outcomes for women and newborns depends on various factors. These include the quality of pre-service training, access to continuing professional development once graduated, the regulated scope of practice, and the presence of an enabling work environment (Renfrew et al. 2014).

Midwifery education has been identified as a critical component contributing to quality midwifery care (Fullerton et al. 2003; Renfrew et al. 2014; World Health Organisation 2013). In this review, the term ‘midwifery education’ refers to the formal process of training midwives (ICM 2010) which has a minimum entry level requirement of a completed secondary school education and is either a three year direct-entry or eighteen month post-nursing program. The term ‘midwifery educators’ refer to the midwives who provide the education to students enrolled in a midwifery program. Unfortunately in LMICs, the number and quality of midwifery educators is often well below what is needed which contributes to the production of midwifery graduates with inadequate technical skills and little ability to think critically (Thompson, Fullerton & Sawyer 2011). The first State of the World’s Midwifery Report (2011) found that, despite some promising developments in midwifery education, competency based midwifery curricula and professional development opportunities for midwifery educators in LMIC were lacking. Recommendations to build capacity for midwifery education remain on the international agenda and include a call for an increase in resources for midwifery education and supervised clinical practice for students (The State of the World's Midwifery 2014). However, as few as 6.6% of midwifery educators in LMIC have any formal preparation in education (World Health Organisation 2013).

In general terms, capacity building has been defined by the United Nations Development Program as “the process through which individuals, organizations and societies obtain, strengthen and maintain the capabilities to set and achieve their own development objectives over time”(United Nations Development Program 2009). In order to strengthen midwifery education, various approaches have been taken to build the capacity of midwifery educators (ICM 2010; The State of the World's Midwifery 2011; World Health Organisation 2009). The WHO (2013) has defined a set of core competencies for midwifery educators which enable effective midwifery practice, teaching and clinical supervision, research and leadership. Global standards have been published (ICM 2010) to assist midwifery educators develop a quality midwifery education program and such documents are most useful when educators are supported by governments, health systems, regulatory bodies and midwifery associations to implement them (Fullerton 2003). Toolkits and teaching aids (K4Health 2015; K4Health 2014; WHO 2008) have also been produced in order to improve the quality of midwifery education but how they have been used in LMIC has not been well documented. The individual context and culture play a significant and important role in how capacity building interventions are developed and implemented and should not be overlooked (Mclean 2013). Despite investment from international donors, capacity building consultants, national partners and local experts, little is known about the best way to build capacity and support midwifery educators working in institutions in LMIC. This review, therefore, aims to explore the different approaches used to build midwifery educator capacity in LMIC and identify which aspects have been successful in creating improved outcomes for midwifery education.

## Method

A descriptive narrative synthesis was chosen for this integrative literature review. This method allows the findings of literature derived from qualitative and quantitative methods to be synthesized and identify gaps by extracting data and then grouping it to present common ideas or arguments (Popay et al. 2005).

### Search protocol

A search of electronic bibliographic databases (CINAHL, MEDLINE, OVID, and PubMed) and websites (Google Scholar, University of Technology Sydney library site, World Health Organization, JHPEIGO, UNFPA) was undertaken. Search terms included ‘midwifery education’, ‘midwifery educators’, ‘midwifery training’, ‘midwife’, ‘capacity building’. Searches were limited by year 2000-2014 and to publications in English language. Searches were limited to LMIC regions by using terms ‘low resource country’, ‘low and middle income country’, ‘LMIC’, ‘developing country’, ‘third world country’. The World Bank country classification scale was used to define LMIC (World Bank 2014). Reference lists were hand searched to identify additional relevant publications.

Papers included in this review explored capacity building from the perspective of both the national educators in LMIC (the capacity ‘buildees’) and the international educators (the capacity ‘builders’). Due to the lack of research papers, a decision was made to examine discursive papers to provide insight into midwifery educator capacity building experiences. We therefore undertook a mapping exercise to provide insight into the context of capacity building alongside a narrative synthesis of research literature. Discursive papers were included that described and/or evaluated an approach to building skills, knowledge and a supportive environment for educators working in training institutions in LMIC. There were low numbers of midwifery-specific papers and the cadre of midwife is not recognized in all countries therefore relevant papers including nurse-midwives or nurse educators who teach maternal, child or reproductive health were also included.

Papers were excluded if approaches to building midwifery educator capacity only focused on clinical teaching sites as midwifery educators who work in institutions face different challenges than those working in the clinical setting alone. Papers involving only medical officers or untrained community midwives were also excluded. Details of inclusion and exclusion criteria for synthesis are included in Table 1.

Table 1: Details of inclusion and exclusion criteria

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Date of publication | Country | Language of publication | Cadre of health professional | Place of Employment |
| Included | 2000-2014 | LMIC as defined by World Bank | English  | Midwives, nurses working in an education role in reproductive health or midwifery | Midwife or nurse training institution and clinical placement site |
| Excluded | 1999 or later | Other than LMIC | Other than English | Medical doctors, community health workers, traditional birthing attendants | Hospital, clinic or community health center only |

### Study selection and quality appraisal

Initial searching using key words retrieved 250 papers and the titles were read. Of these, 174 papers were removed as they were not relevant to the review question or study focus. The remaining 76 retrieved titles and abstracts were screened and examined in more detail for possible inclusion. Thirty-five research papers were screened and 41 discursive papers screened and appraised for possible inclusion. Twenty-nine research papers and 29 discursive papers were further discarded as they did not meet the selection criteria leaving 6 research and 12 discursive papers remaining.

The quality of the six research papers was evaluated using either the Critical Appraisal Skills Program (CASP) tool for qualitative research (NHS 2006) or the Critical Review Form for quantitative studies (Law et al. 1998). The 12 discursive papers were assessed using the Authority, Accuracy, Coverage, Objectivity, Date, Significance (AACODS)checklist which is designed to enable evaluation and critical appraisal of grey literature (Tyndall 2010). The 18 papers (6 research and 12 discursive) were all determined to be of high quality and were included in the mapping exercise and analysis. An overview of the literature review process is displayed in Figure 1 using the Preferred Reporting Items for Systematic Reviews and Meta Analyses (PRISMA) flow diagram.

Figure 1: Overview of the literature review process



### Data abstraction and synthesis

In total, 18 papers were selected, six research papers and 12 discursive papers and these groups were analyzed separately (Figure 1). A narrative synthesis approach was used to critique the study characteristics, context and quality (Lucas et al. 2007) of the research papers and draw conclusions based on the similarities and differences found across papers. The characteristics of the research papers are outlined in Table 2 identifying relationships and themes across and within the papers. The discursive papers were examined and described under each of these themes to provide context for the research.

## Findings

The majority of papers included in this review come from Africa (n=9) with others included from South America (n=2), South East Asia (n=2), Central Asia (n=2), Balkans (n=1), South Pacific (n=1) and South Asia (n=1) with notable knowledge gaps in Central America and coverage across all regions. Three papers focused on nursing only, five papers midwifery only and ten papers a combination of nurse-midwifery that may reflect education programs prioritizing the attainment of nursing qualifications followed by midwifery training. The papers described approaches to building educator capacity to improve teaching and practice across three key themes. These are: using curricula review to strengthen knowledge and skills in practice and teaching, building capacity in leadership, management and research skills, and finally, participation in communities of practice to increase access to information and resources (Figure 2).

Figure 2: Key findings of the review and citations. *Research papers shown in italics.*

Girot and Enders, 2004; Mogobe et al, 2009; Wright et al, 2005; *Maclean and Forss, 2010; Uys and Middleton, 2011*

Evans et al, 2013; Johnson et al, 2007; Lacey-Haun and Whitehead, 2009; Parfitt et al, 2008; Sherwood and Liu, 2005; *Amaral et al 2012*

Fullerton et al, 2011; Pons et al, 2002;The RESPOND Project, 2012; Usher et al, 2012; *Akiode et al 2010; Turkmani et al 2013; Voetabe et al 2010*

### Using curricula review/update to improve educator skills and knowledge

Seven papers focused on developing midwifery educator’s skills and knowledge as part of the curricula review process. Four of the papers were discursive (Fullerton et al. 2011; Pons, Rawlins & Griffey Brechin 2002; The RESPOND Project 2012; Usher et al. 2012) and three based on primary research (Akiode et al. 2010; Turkmani et al. 2013; Voetagbe et al. 2010).

The methods of engagement between international consultants who are the capacity ‘builders’ and national participants who are the capacity ‘buildees’ are described in all the discursive papers that may indicate a focus on donor activity in this area. International capacity buildees used role plays, group discussion, simulation and clinical demonstrations to teach updated curriculum content to the national educators (Fullerton et al. 2011; Pons, Rawlins & Griffey Brechin 2002). If issues arose from working in a cross-cultural partnership, they were not described in any of the papers included in this section.

Master-trainer or train-the-trainer approaches involving key national educators featured in papers describing large projects where a national curriculum update required the involvement of multiple institutions (Akiode et al. 2010; Pons, Rawlins & Griffey Brechin 2002; Usher et al. 2012). An example was provided from Nigeria by Akiode et al. (2010) where a master-trainer model using a combination of theory and clinical practice was used to develop the knowledge, skills and attitudes of 169 midwifery educators from all 70 training institutions in Nigeria. Improvements noted from this approach included the implementation of contemporary adult education methods, which involved the use of simulation materials and sessions delivered by clinicians from teaching hospitals. The pre and post-test evaluation of this program demonstrated successful outcomes including an increased level of midwifery educator’s knowledge and skills relating to both content (post-abortion care) and teaching (Akiode et al. 2010). After the intervention, the results of surveyed midwifery graduates indicated that there was an increase in exposure to theoretical teaching and clinical practice in the area of post-abortion care, greater availability of equipment in the clinical area and more learning support from clinicians (Akiode et al. 2010).

International educators reported that national educators were sometimes reluctant to change their teaching methods and clinical practice (Akiode et al. 2010; Fullerton et al. 2011; Pons, Rawlins and Griffey Brechin 2002; The RESPOND Project 2012, Turkmani et al. 2013; Usher et al. 2012, Voetagbe et al. 2010). For example, Usher et al. (2012) reported that, despite multiple collaborations with educators and administrators from the Pacific Island region to update curriculum with regional competency standards, some educators failed to implement the recommended changes when they returned to their home country. Reasons for this were noted in the RESPOND project report indicating that national midwifery educators were not always skilled or motivated to use contemporary adult education methods to improve the quality of teaching (The RESPOND Project 2012). In another study, national midwifery educators were found to be adversely influenced by their peers who were reluctant to employ ‘modern’ teaching methods and use problem-based learning in their institution (Fullerton et al. 2011). In another study Voetagbe et al. (2010) assessed the capacity and willingness of 70 Ghanaian midwifery educators to teach and support clinical learning associated with comprehensive abortion care (Voetagbe et al. 2010). Despite the fact that post-abortion care is considered to be an additional competency (ICM 2010) and may not be present in all midwifery education curricula, the findings indicated that midwives found teaching the material to be challenging due to a lack of wider knowledge, skills and personal beliefs. Midwifery educators displayed an inadequate knowledge of the law on abortion, a religious belief bias against teaching abortion and a lack of clinical competence in using manual vacuum aspirators. Although Voetagbe et al. (2010) identified the barriers and motivators for midwifery educators to teach comprehensive abortion care, the authors did not report any efforts that were undertaken to update the curriculum or capacity of the midwifery educators (Voetagbe et al. 2010). Such insight may have provided useful strategies to ensure a comprehensive curriculum to facilitate effective midwifery education.

Other challenges related to the lack of a standardized curriculum and inconsistent approaches to supporting student’s learning within the country (The RESPOND Project 2012; Turkmani et al. 2013), or within a region (Usher et al. 2012) were described in the papers in the review. These challenges were found to create large variations in graduate competency which was complicated by the fact that the curriculum was not always aligned with national health plans. Although a standardized curriculum with evidence-based content was identified as a strength of a capacity building program in Afghanistan (Turkmani et al. 2013), there were some criticisms that midwifery educators displayed a lack of professionalism by behaving disrespectfully to the students and lacked skills in the use of audiovisual aids.

A common theme across the papers was the inadequate quality and number of educators available to provide clinical supervision to students and a lack of competency-based assessment methods to assess student learning (Fullerton et al. 2011; Pons, Rawlins and Griffey Brechin 2002; The RESPOND Project 2012). Turkmani et al. (2013) analyzed how a lack of midwifery educators in Afghanistan were found to impact on student learning with high ratios of students to educators making it difficult to effectively supervise clinical skill acquisition (Turkmani et al. 2013). In addition, the role of the midwife was not supported by the medical profession and the skills of midwifery clinicians in the clinical placement sites were not consistent with the clinical practice of the midwifery graduates. Both these issues were reported to cause tension in the clinical area. The lack of equipment and skilled staff in the clinical area affected the provision of clinical learning support with results indicating that midwifery students were often expected to mentor medical students and clinicians (Turkmani et al. 2013).

In summary, papers included under this theme found that approaches used to build midwifery educator’s capacity when reviewing or updating curricula were more successful when incorporated into system wide improvements. Being able to apply theoretical knowledge in a supportive clinical environment was reported to improve student outcomes and lead to sustainable improvements in midwifery education.

### Improving educator’s skills in leadership, management and research

Improving skills in leadership, management and research to build educator capacity was a theme identified in five discursive (Evans, Razia & Cook 2013; Johnson et al. 2007; Lacey-Haun & Whitehead 2009; Parfitt, Mughal & Thomas 2008; Sherwood & Liu 2005) and one research paper (Amaral et al. 2012). The papers reported on findings from nurse-midwifery studies as there were no midwifery-specific papers. All discursive papers emphasize the importance of addressing cultural differences between the international capacity builders and the national buildees to ensure that approaches to building capacity are effective and culturally relevant (Evans, Razia & Cook 2013; Johnson et al. 2007; Lacey-Haun & Whitehead 2009; Parfitt, Mughal & Thomas 2008; Sherwood & Liu 2005). However, no specific strategies are provided with regards to best practice in this area.

All five discursive papers argued that the development of personal, professional and disciplinary leadership skills were important for educators to represent the profession nationally or internationally and increase the profile of the discipline (Evans, Razia & Cook 2013; Johnson et al. 2007; Lacey-Haun & Whitehead 2009; Parfitt, Mughal & Thomas 2008; Sherwood & Liu 2005). Conducting research was also identified as an important role for educators to assist them to remain current in teaching and clinical practice and contribute to the body of professional knowledge (Lacey-Haun & Whitehead 2009).

Having knowledge and skills in management was reported to assist educators in institutions gain advanced qualifications and provided more options for career progression. Educators who participated in leadership training reportedly increased their levels of self-confidence, critical thinking and problem solving skills (Parfitt, Mughal & Thomas 2008; Sherwood & Liu 2005). In addition improved leadership skills were found to be associated with improved student outcomes, contributing to a quality workforce (Amaral et al. 2012; Lacey-Haun & Whitehead 2009).

Two papers from China and Eritrea described the use of a study abroad model to formally upgrade midwifery educator’s teaching qualifications specifically in leadership and management (Johnson et al. 2007; Sherwood & Liu 2005). However, studying abroad was not seen as a successful strategy, as educators did not always return to their home country after the training. A similar finding was found in Africa (Mogobe, Bruce & Meyer 2009) where the cost of sending educators to study abroad made this approach prohibitive. The study abroad models in China and Eritrea were successfully revised to include in-country and regional mentoring and distance education modules which resulted in all educators returning to their previous posts with improved skills in leadership and management.

Distance education modules were found to be beneficial to building educator’s skills when used in combination with short residential training (Lacey-Haun and Whitehead 2009). International facilitators used training methods which included the identification of individual personality profiles, the promotion of self-assessment and reflection and the application of self-regulation skills. This was found to result in sustainable outcomes for educators who completed leadership training as they were able to go onto to become facilitators for similar training in other African countries (Lacey-Haun and Whitehead 2009).

Email correspondence between the capacity buildees and builders used as a means to facilitate completion of distance education modules were described in two papers as problematic due to differing cultural perceptions of communication, time and work priorities (Johnson et al. 2007; Lacey-Haun & Whitehead 2009). Ongoing mentoring from international counterparts and national peer support were highlighted as important approaches to ensure that leadership program objectives were met and learning outcomes achieved (Evans, Razia & Cook 2013; Johnson et al. 2007; Sherwood & Liu 2005). Sherwood & Liu (2005) noted that leadership and management training was conducted in English to enable increased access to evidence based resources (Sherwood & Liu 2005), however the English proficiency of educators was not outlined therefore it is unclear if language difficulties were encountered. However the authors also described the translation of resources into Chinese to enable greater dissemination of teaching and learning and improving communication within the faculty (Sherwood & Liu 2005).

Two papers, from Eritrea and Tajikistan reported the benefits of including computer and internet literacy into the residential training of a leadership training program. Both studies found improvements in participant’s confidence to use electronic methods to complete course requirements (Johnson et al. 2007; Parfitt, Mughal & Thomas 2008). Effective communication and interpersonal skills were reported to be essential for educators to enable multi-cultural and international collaboration between both parties involved in capacity building (Fullerton et al. 2011; Lacey-Haun & Whitehead 2009. Such skills enabled educators to build capacity in academic management, student affairs and research paper writing. Communication and negotiation skills were also found to be enhanced through multidisciplinary leadership training that also provided opportunities for networking and building relationships between cadres of health care professionals (Lacey-Haun & Whitehead 2009; Parfitt, Mughal & Thomas 2008). Fullerton et al. (2011) also identified that incorporating leadership training in faculty development programs facilitated effective role modelling and increased professionalism.

The FAIMER project, a two year part-time training program for nursing, dentistry, pharmacy and medicine educators in Brazil provides another example of leadership and management capacity building (Amaral et al. 2012). The moderated course structure which consisted of both residential schools and distance learning was evaluated positively by the participants. Despite methodological weaknesses, self-reported pre and post program surveys found that participant’s knowledge and skills had improved across program areas. The majority of participants succeeded in fulfilling the course requirements that included contributing to research and curricula improvements and increasing the professionalism of their cadres by speaking at conferences and contributing to faculty development at their institutions (Amaral et al. 2012). These findings are consistent with discursive reports in this review which highlight the importance of midwifery educator participation in research to remain current in their clinical practice and teaching (Lacey-Haun & Whitehead 2009).

In summary, building midwifery educator’s skills in leadership, management and research can increase individual’s confidence and skills. Personal confidence improves educator’s self-efficacy and ability to advocate for resources, share knowledge and strengthen education systems. Participating in research and disseminating research findings was reported to strengthen the status of the midwifery profession and ensure the use of contemporary curricula and teaching methods. All discursive papers included in this section indicate that international capacity builders who are culturally sensitive and have knowledge about the country, context and language are more likely to achieve improved outcomes.

### Creating a community of practice

Three discursive (Girot & Enders 2003; Mogobe, Bruce & Meyer 2009; Wright et al. 2005) and two research papers (Maclean & Forss 2010; Uys & Middleton 2011) reported on the development of midwifery educator capacity through the establishment of communities of practice involving national, regional or international collaboration. Alternate terms are used within the papers to describe collaboration or the process of working together to improve the quality of midwifery education including internationalization and participation.

Communicating using a common language and having access to evidence based resources were important considerations when working in an international or regional partnership (Girot & Enders 2003; Mogobe, Bruce & Meyer 2009; Wright et al. 2005). Strategies were described to facilitate communication prior to the commencement of one collaborative education project including the requirement that all partners were proficient in the English language (or another common language) and the provision of a 3 month intensive language training for national educators who were not fluent (Wright et al. 2005). In addition, establishing context specific goals when collaborating between countries was considered important when setting up an international partnership (Wright et al. 2005). Culture was acknowledged as having an impact on capacity building and it was emphasized that both parties benefit from knowledge of the others culture and context in order for communication to be effective (Girot & Enders 2003; Uys & Middleton 2011; Wright et al. 2005). An example of a successful collaboration between educators from different countries is described by Uys & Middleton (2011). The South African capacity builders involved in the Collaboration in Higher Education for Nursing and Midwifery (CHENMA) were described as enabling their East African counterparts to feel respected and empowered during the project. The South-South nature of the project was identified as a major strength and the voluntary involvement of the capacity builders from South Africa was an important characteristic to reduce power imbalance between the countries (Uys & Middleton 2011). In addition to building capacity at an individual level, the project assisted in building institutional capacity by strengthening universities’ ability to interact with major stakeholders and prepare them for international involvement. Some additional benefits for the institutions were the establishment of ongoing international relationships between midwifery educators, improved university status and increased staff motivation to use contemporary adult education methods and evidence based practice. Challenges were found where collaboration included supervisory relationships across institutions. Supervising the work of others via the internet was problematic due to lack of infrastructure, poor computer literacy or decreased student motivation to communicate electronically (Uys & Middleton 2011). Strategies that include not only a common language but equivalent levels of information literacy and computer infrastructure may also be useful requisites to collaborative endeavors.

Engaging with multiple stakeholders (recipients of care, clinical service providers, professional organizations, members of the health department) was noted as essential to ensure that support is available for the capacity building interventions to be implemented and sustained (Girot & Enders 2003; Wright et al. 2005). For example, Pons, Rawlins and Griffey Brechin (2002) described how collaboration between individuals, organizations and the health system in the Philippines enabled a sustained change in contemporary clinical practice up to two years after the initial curriculum review and update. Engaging in regional or international partnerships in order to meet the health needs of an increasingly globalized population was identified as being beneficial for national educators in two papers (Mogobe, Bruce & Meyer 2009; Wright et al. 2005). These papers identified that regional collaboration improved midwifery educators capacity to work across cultures and had a lasting positive impact on the development of curriculum, practice and professional association (Mogobe, Bruce & Meyer 2009; Wright et al. 2005).

Sharing knowledge and resources in a supportive environment was reported to improve teamwork, inter-disciplinary collaboration and professional development (Girot & Enders 2003; Mogobe, Bruce & Meyer 2009; Wright et al. 2005). For example, team building exercises, lectures, and site visits were used to facilitate teaching and learning in an International Capacity Building Program for Nurses (ICBN) where national educators were supported in small groups to develop strategic plans for how to improve capacity in their home country. Group work was evaluated as beneficial for building confidence in working with others and it was found that capacity buildees had increased confidence to present their strategic plans to Ministries of Health, the World Health Organization, and at national and international meetings (Wright et al. 2005).

A lack of networking and alliance between countries was found to contribute to the delayed development of midwifery education (Mogobe, Bruce & Meyer 2009). However, increasing numbers of qualified educators within a region was reported to contribute to the advancement of the midwifery profession as educators who had access to professional development opportunities were more likely to engage with stakeholders and contribute to all levels of decision making and policy development. (Wright et al. 2005). Regional collaboration was also identified as a cost effective way to develop midwifery educator capacity in smaller LMIC where it may not be financially feasible to have in-country professional development programs to upgrade midwifery educator’s qualifications to Masters or PhD level. An example of networks within a region has been described by Maclean & Forss (2010). The African Midwives Research Network (AMRN) created a network of professionals who could support each other, share resources and contribute to midwifery faculty development (Maclean & Forss 2010). However, a lack of availability and access to electronic forms of communication meant that the majority of members who resided in less developed countries in Africa had limited interaction with others and could not access electronic research findings. Some members of the network displayed evidence of improved knowledge, practice skills and attitudes towards care of women during pregnancy and labour which enabled revisions of midwifery curricula in their institutions to include more research in theoretical and clinical teaching (Maclean & Forss 2010).

In summary, approaches using collaboration to build capacity of midwifery educators has been reported to increase access to resources, strengthen alliances and may be a cost effective strategy to upgrade teaching qualifications. During an international partnership to build capacity, it was acknowledged that learning occurs both ways and the capacity builders often experienced cultural learning which was essential to the successful implementation of the project.

## Discussion

This review focuses on approaches used to build midwifery educator’s capacity in teaching. The review focused on educators working in midwifery training institutions, regardless of the length of the curriculum or whether the institution provided a direct-entry or post-graduate qualification. This review identified a variety of approaches to develop the quality of midwifery educator’s knowledge and skills in teaching and clinical practice, with some overlap of approaches described within the papers. As primary evidence from research papers was limited, discursive literature was included to provide contextual information to enrich an understanding of the environment and challenges affecting the capacity building of midwifery educators in LMIC. Overall, the papers showed that a lack of trained and motivated midwifery educators and outdated curricula affected the quality of midwifery education. It was also reported that support to clinical teaching sites through the provision of material resources and continuing professional development for clinicians would be useful to minimize the theory-practice gap experienced by midwifery educators and student midwives during clinical placement. Not all papers that conducted assessments of curricula and midwifery educator capacity have implemented or evaluated their recommendations which limits the ability of this review to critique suggested strategies. A lack of research studies specific to midwifery was noted together with an absence of a framework for planning, implementing and evaluating midwifery educator development in LMIC. The findings of this review provide insights for developing midwifery educator capacity at individual, institutional and system levels that requires active leadership and support from midwifery faculty members with appropriate professional skills and attributes. This review identified a number of approaches to building midwifery educator capacity that were included as part of curriculum review or update, focused on strengthening leadership, management and research skills and collaborating in a community of practice. These approaches are described in the following section.

### Leadership as an enabling factor

If educators have completed a leadership and management program and hold positions of influence, there is evidence that they take a more active role in sharing research and education-related information at conferences, meetings and workshops, assisting to build a critical mass of educators within their schools, regions and country (Amaral et al. 2012; Lacey-Haun & Whitehead 2009). In most resource poor country settings there is a breadth of knowledge and experience but midwifery educators are often not empowered to act as change agents (Voetagbe et al. 2010). There is evidence to suggest that the poor status of women and midwifery in some LMIC pose barriers for midwifery educators to influence policy at institutional and health system level (Bacon et al. 2014; Turkmani et al. 2013). This review found that leadership and management training enabled midwifery educators to communicate more effectively with heads of department, university administration and ministry of health officials to advocate for resources for midwifery education (Amaral et al. 2012). In countries where there is a motivated midwifery professional association or academic community, there is increased midwifery representation in national level discussions and policy development (Amaral et al. 2012; Turkmani et al. 2013). Leadership and management training combined with building knowledge and skills in teaching methodologies and clinical midwifery practice is an effective strategy to build midwifery educators confidence and competence (Johnson et al. 2007; Lacey-Haun & Whitehead 2009; Parfitt, Mughal & Thomas 2008).

### Individual, institutional and system-wide approaches to building midwifery educator capacity

Concurrent strengthening of organizations and systems to complement individual capacity building was highlighted to improve the quality of midwifery educator teaching and clinical facilitation (Akiode et al. 2010; Maclean & Forss 2010; Turkmani et al. 2013; Voetagbe et al. 2010). There is little evidence, however, about how such comprehensive approaches can be achieved. There is high level acknowledgement that a collaborative approach involving relevant stakeholders in education facilities, regulation authorities and clinical placement sites is useful and has a more sustainable impact on midwifery educator satisfaction and retention than a single-level approach (The State of the World's Midwifery 2014). Developing policy, infrastructure and resources and investing in in-service education are supportive strategies that can assist the professional development of midwifery educators and therefore better prepare students for midwifery practice (International Confederation of Midwives 2013; World Health Organisation 2009, 2013).

### Considerations for individuals providing faculty development in low-resource countries

The paper by Maclean and Forss (2010) highlighted the importance of considering cultural competence and collaboration when planning a program to develop midwifery education. Establishing trust and mutual respect are key to developing an effective partnership and prevent cultural misunderstandings that can affect the achievement of capacity building outcomes (Maclean 2013). International collaborative efforts have been accepted more readily in countries where there has been an established relationship in health development or education prior to the implementation of an initiative to build the capacity of midwifery educators (Maclean 2013). Having knowledge of the context and the different working and living conditions helps to prepare international consultants who provide development assistance (Maclean 2013). The review findings show that where possible, in-country programs were preferred over sending educators outside their country for training and development highlighting the importance of context specific capacity building. It was identified across both discursive and research papers that there was variable internet connectivity, poor computer literacy and a preference for face-to-face learning. This meant that externally-moderated internet-based learning modules were not well accepted in LMIC and would be more successful with an in-country facilitator to support learning.

### Limitations

The inclusion of only English language publications is a limitation of this review. Although research from seven regions have been included, not all member countries or regions of the ICM or WHO (ICM 2014; WHO 2015) have published quality research in English language which limits the representation from the other regions.

## Conclusion

The approaches identified in this review to build midwifery educator capacity were related to curriculum review and skill development, leadership, management and research training and collaborating in a community of practice. It is acknowledged that focusing on education alone is not sufficient to build an effectivemidwifery workforce. Support to build educational infrastructure, resources, systems and regulation is also needed to produce a practice-ready midwifery workforce who can meet the needs of women and children (The State of the World's Midwifery 2014). Participation in leadership and management training enables midwifery educators to engage at both national and international levels to advocate for professional development opportunities for midwives. In a resource-poor environment, collaboration between countries (internationalization) can be beneficial given there is an increasingly global midwifery education workforce. Educating midwifery educators abroad were not found to be effective in this review and a lack of infrastructure and poor computer literacy in LMIC limited the use of internet-based distance learning modules. There was a lack of literature relating to the use of a framework to guide capacity building approaches and how the outcomes of existing interventions are being monitored and evaluated. Implementing competency based assessment methods into teaching and learning has also not been thoroughly reported nor how midwifery educators could engage with their institution or system to ensure sustainability. More research in these areas and the development of a framework to guide approaches to build midwifery educator capacity in LMIC is needed.

## References

Akiode, A., Fetters, T., Daroda, R., Okeke, B. & Oji, E. 2010, 'An evaluation of a national intervention to improve the postabortion care content of midwifery education in Nigeria', Int J Gynaecol Obstet, vol. 110, no. 2, pp. 186-90.

Amaral, E., Campos, H.H., Friedman, S., Morahan, P.S., Araujo, M.N., Carvalho, P.M., Bollela, V., Ribeiro, M.G., Mennin, S., Haddad, A.E. & Campos, F. 2012, 'An educational international partnership responding to local needs: process evaluation of the Brazil FAIMER Regional Institute', Educ Health (Abingdon), vol. 25, no. 2, pp. 116-23.

Bacon, A., Ellis, C., Rostoker, J.-F. & Olaro, A.A. 2014, 'Exploring the role of midwives in Uganda's postabortion care: current practice, barriers, and solutions', International Journal of Childbirth, vol. 4, no. 1, pp. 1-14.

Evans, C., Razia, R. & Cook, E. 2013, 'Building nurse education capacity in India: insights from a faculty development programme in Andhra Pradesh', BMC Nursing, vol. 12, no. 8, pp. 1-8.

Fullerton, J.T., Johnson, P.G., Thompson, J.B. & Vivio, D. 2011, 'Quality considerations in midwifery pre-service education: Exemplars from Africa', Midwifery, vol. 27, no. 3, pp. 308-15.

Fullerton, J.T., Severino, R., Brogan, K., & Thompson, J. 2003. ‘The International Confederation of Midwives’ study of essential competencies of midwifery practice’, Midwifery, vol. 9, pp.174-190.

Girot, E.A. & Enders, B.C. 2003, 'International educational partnership for practice: Brazil and the United Kingdom', Journal of Advanced Nursing, vol. 46, no. 2, pp. 144-51.

International Confederation of Midwives 2014, Midwives Associations, viewed 5 February 2014, <www.internationalmidwives.org>.

International Confederation of Midwives 2013, Association Core Documents, viewed 23 October 2013, <www.internationalmidwives.org>.

John Hopkins University 2015, The training resource package for family planning. USAID, WHO and UNFPA, Baltimore.

 Johnson, P., Ghebreyohanes, G., Cunningham, V., Kutenplon, D. & Bouey, O. 2007, 'Distance education to prepare nursing faculty in Eritrea: diffusion of an innovative model of midwifery education', J Midwifery Womens Health, vol. 52, no. 5, pp. e37-41.

K4Health. 2015, Pre-service education toolkit, USAID, MCHIP and JHPIEGO, Baltimore.

K4Health. 2014, Postpartum Family Planning (PPFP) toolkit, USAID, MCHIP, Baltimore.

Lacey-Haun, L.C. & Whitehead, T.D. 2009, 'Leading change through an international faculty development programme', J Nurs Manag, vol. 17, no. 8, pp. 917-30.

Law, M., Stewart, D., Pollock, N., Letts, L., Bosch, J. & Westmorland, M. 1998, Critical Review Form - Quantitative Studies, McMaster University, Ontario.

Lucas, P.J., Baird, J., Arai, L., Law, C. & Roberts, H.M. 2007, 'Worked examples of alternative methods for the synthesis of qualitative and quantitative research in systematic reviews', BMC Medical Research Methodology, vol. 7, no. 4, pp. 1-7.

Maclean, G.D. 2013, Electives and International Midwifery Consultancy: a resource for students, midwives and other healthcare professionals. Tiger stripes and tears, Quay Books, London.

Maclean, G.D. & Forss, K. 2010, 'An evaluation of the Africa Midwives Research Network', Midwifery, vol. 26, no. 6, pp. e1-8.

Mogobe, K.D., Bruce, J.C. & Meyer, S. 2009, 'Collaboration in higher education for nursing and midwifery in Africa (CHENMA)', Africa Journal of Nursing and Midwifery, vol. 11, no. 1, pp. 5-15.

National Health Service 2006, Critical Appraisal Skills Programme (CASP) Making Sense of Evidence, Public Health Resource Unit, London.

Parfitt, B., Mughal, M. & Thomas, H. 2008, 'Working together; a nursing development project in Tajikistan', International Nursing Review, vol. 55, pp. 205-11.

Pons, M., Rawlins, B. & Griffey Brechin, S.J. 2002, Institutionalization of reproduction health preservice education in the Philippines: An evaluation of programmatic efforts, 1987-1998, JHPIEGO, USA.

Popay, J., Roberts, H.M., Sowden, A., Petticrew, M., Arai, L., Rodgers, M., Britten, N., Roen, K. & Duffy, S. 2005, Guidance on the conduct of narrative synthesis in systematic reviews: A product from the ESRC Methods Programme, Lancaster University, UK.

Renfrew, M.J., McFadden, A., Bastos, M.H., Campbell, F., Channon, A.A., Cheung, N.G., Silva, D.R.A.D., Downe, S., Kennedy, H.P., Malata, A., McCormick, F., Wick, L. & Declercq, E. 2014, 'Midwifery and quality care: findings from a new evidence-informed framework for maternal and newborn care', The Lancet, 384, pp. 1-17.

Sherwood, G. & Liu, H. 2005, 'International collaboration for developing graduate education in China', Nurs Outlook, vol. 53, no. 1, pp. 15-20.

The RESPOND Project 2012, Kenya preservice training for long-acting and permanent methods of contraception: Assessment report, Engender Health/The RESPOND Project, New York.

The State of the World's Midwifery 2011, Delivering health, saving lives, UNFPA, New York.

The State of the World's Midwifery 2014, A universal pathway. A woman's right to health, UNFPA, New York.

Thompson, J.B., Fullerton, J.T. & Sawyer, A.J. 2011, 'The International Confederation of Midwives: Global standards for midwifery education (2010) with companion guidelines', Midwifery, vol. 27, pp. 409-16.

Turkmani, S., Currie, S., Mungia, J., Assefi, N., Rahmanzai, A.J., Azfar, P. & Bartlett, L. 2013, ''Midwives are the backbone of our health system': Lessons from Afghanistan to guide expansion of midwifery in challenging settings', Midwifery, vol. 29, pp. 1166-72.

Tyndall, J. 2010, AACODS checklist, Flinders University Academic Commons, Adelaide.

United Nations Development Program 2009, Capacity Development: A UNDP Primer, New York.

Usher, K., Lindsay, D., Stewart, L., West, C., McAuliffe, M., Henry, R., MacManus, M., Hall, J. & Conaglen, J. 2012, Enhancing the quality of nursing and midwifery. Educational Programs and Services in the Pacific, JCU/AUT.

Uys, L.R. & Middleton, L. 2011, 'Internationalising university schools of nursing in South Africa through a Community of Practice', International Nursing Review, vol. 58, pp. 115-22.

Voetagbe, G., Yellu, N., Mills, J., Mitchell, E., Adu-Amankwah, A., Jehu-Appiah, K. & Nyante, F. 2010, 'Midwifery tutors' capacity and willingness to teach contraception, post-abortion care, and legal pregnancy termination in Ghana', Human Resources for Health, vol. 8, no. 2, pp. 1-6.

World Health Organization 2015, Alphabetical list of WHO member states, viewed 10 April 2014, <www.who.int>

World Bank 2014, World Bank list of economies, viewed 5 April 2014, <www.worldbank.org>

World Health Organization 2013, Midwifery educator core competencies, World Health Organization, Geneva.

World Health Organization 2009, Global standards for the initial education of professional nurses and midwives, World Health Organization, Geneva.

World Health Organization 2008, Midwifery Education Modules. 2nd Edition. WHO, Geneva.

Wright, S., Cloonan, P., Leonhardy, K. & Wright, G. 2005, 'An international programme in nursing and midwifery: building capacity for the new millennium', International Nursing Review, vol. 52, pp. 18-23.